

22



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,379	03/21/2001	Masayuki Hattori	09812.0162-00000	3859

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EXAMINER

TRAN, THANG V

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/814,379	HATTORI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thang V. Tran	2627	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-88 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-88 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

A communication dated 04/28/06 has been considered with the following results:

**DETAILED ACTION**

1. The indicated allowability over the prior art of claims 21-88 are withdrawn in view of the newly discovered reference(s) to Brink (US 6,662,337) and Rhines et al (US 5,392,299). Rejections based on the newly cited reference(s) follow.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21-30, 32-, 47, 49-64, 66-81 and 83-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brink in view of Rhines et al.

Regarding claims 21, 38, 55 and 72, Brink, according to Fig. 1, discloses a system including modulation encoding means (outer encoder) for applying predetermined modulation encoding to input data and first interleaving means(interleaver) for interleaving data supplied from the modulation encoding means for re-arraying the data sequence, a data reproduction apparatus (receiver) comprising deinterleaving means (deinterleaver) for interleaving reproduced data in its sequence such as to restore the sequence of data bits re-arrayed by the first interleaving means to the bit sequence of the data as encoded by the modulation encoding means; modulation decoding means (outer decoder) for modulation decoding the data supplied from the deinterleaving means; and second interleaving means (interleaver) for interleaving data corresponding to a difference between data output by the modulation decoding means and data

output by the deinterleaving means, based on the same interleaving position information as that of the first interleaving means, for re-arraying the sequence of the difference data. However, Brink fails to suggest the use of a recording equipment for recording data on a recording medium. Rhines et al., according to Fig. 1 or 2, teaches the use of a recording equipment for recording data on a recording medium (see media channel 8 in Fig. 1 or 162 in Fig. 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the recording equipment as taught by Rhines et al into the system of Brink in order to record encoded data onto a recording medium so that data can be alternatively distributed/transmitted to a data reproducing apparatus (receiver).

Regarding claims 22, 39, 56 and 73, see Fig. 1 of Brink which shows the modulation decoding means is fed with a soft input signal and outputs a soft output signal.

Regarding claims 23, 40, 57 and 74, see inner encoder in Fig. 1 of Brink as precoder means for filtering data supplied from the first interleaving means to compensate for channel characteristics, and see inner decoder in Fig. 1 as channel decoding means for decoding the channel response in the data reproducing apparatus.

Regarding claims 24, 25, 41, 42, 57, 59, 75 and 76 and see the inner decoder and its inputs shown in Fig. 1.

Regarding claims 26, 43, 60 and 77, see Fig. 1 of Brink for limitations of the deinterleaving means interleaves data corresponding to difference between the data output by the channel decoding means and data output from the second interleaving means; decoding being iteratively performed between the modulation decoding means (outer decoder) and the channel decoding means (inner decoder).

Regarding claims 27, 44, 61 and 78, see Fig. 2 of Rhines for the recording equipment includes error correction encoding means 12) for error correction encoding input data to supply the resulting data to the modulation encoding means (90), and the data reproducing apparatus further comprising; error correcting soft decoding means for soft decoding the error correction code of the soft input signal corresponding to soft output data obtained by said modulation decoding means as a result of iterative decoding.

Regarding claims 28, 45, 62 and 79, see outer encoder and outer decoder in Fig. 1 of Brink for limitation recited in these claims.

Regarding claims 29, 46, 63 and 80, see transmitter unit in Fig. 1 of Brink for limitation recited in these claims.

Regarding claims 30, 47, 64 and 81, see transmitter unit in Fig. 1 of Brink for limitation recited in these claims.

Regarding claims 32, 49, 66 and 83, see receiver unit in Fig. 1 of Brink for limitation recited in these claims.

Regarding claims 33, 50, 67 and 84, see transmitter unit in Fig. 1 of Brink for limitation recited in these claims.

Regarding claims 36, 53, 70 and 87, see Fig. 1 of Brink and column 2, lines 19-33, for limitations recited in these claims.

Regarding claims 37, 54, 71 and 88, see channel 162 in Rhines et al where data is recorded on said recording medium by a magnetic, optical or magneto-optical system. interleaves data encoded with block modulation by said modulation encoding step in terms of a modulation encoding block as a unit.

***Allowable Subject Matter***

4. Claims 31, 48, 65 and 82 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 31, 48, 65 and 82 are allowable because the prior art of record, considered in combination or alone, fails to suggest or fairly teach a combination of all limitations as particularly recited in each of claims 31, 48, 65 and 82.

***Cited References***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references relate to a recording/transmitting and reproducing/receiving system having outer encoder, interleaver, inner encoder in the recording/transmitting side and outer decoder, deinterleaver and inner decoder in the and reproducing/receiving side.

***Response to Arguments***

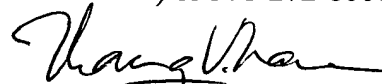
7. Applicant's arguments with respect to claimed invention have been considered but are moot in view of the new ground(s) of rejection.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thang V. Tran whose telephone number is (571) 272-7595. The examiner can normally be reached on M-F 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Hoa can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thang V. Tran  
Primary Examiner  
Art Unit 2627